# Transportation\_

This environmental assessment incorporates by reference (as per 40 CFR 1502.21) the Transportation specialists report and other technical documentation used to support the analysis and conclusions of this environmental assessment. The entire report us in the project record which is located at the Sisters Ranger District office, Sisters, Oregon.

## Introduction

This report will evaluate three areas in relation to the transportation system within the Melvin Butte Vegetation Management Project area for Alternatives 1, 2, and 3:

- 1. Closing and Decommission of Forest System Roads (Melvin Butte Vegetation Management Project Roads Analysis, Walker 2014),
- 2. Temporary Roads.
- 3. Road Maintenance.

## **Regulatory Framework**

The goal pursuant to the Deschutes National Forest Plan, page 4-71 is:

"To plan, design, operate and maintain a safe and economical transportation system providing efficient access for the movement of people and materials involved in the use and protection of National Forest lands."

Part of the Standard and Guidelines for meeting the goal is to meet certain road densities as stated on page 4-72, Deschutes National Forest Plan, Section TS-12:

"Some management areas include open road density guidelines. If not included in the management area direction, the deer summer range guideline of 2.5 miles per square mile, as an average over the entire implementation unit, is assumed. Guideline densities will be used as thresholds for a further evaluation and will not serve as the basis for assessing conformance with the Forest Plan.

None of the land management allocations within the Melvin Butte Vegetation Management Project area indicates any systematic reduction of road miles or densities except M15 – Old Growth. From Section M15, under the Standard and Guidelines for Transportation M15-14 states:

"Access by road or trail will be limited to the minimum standard and density that meets the objectives of this Management Area. Roads no longer needed will be closed and allowed to revegetate naturally. Helispots and transmission corridors will not be allowed.

(b) Road system—(1) Identification of road system. For each national forest, national grassland, experimental forest, and any other units of the National Forest System (§212.1), the responsible official must identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands. In determining the minimum road system, the responsible official must incorporate a science-based roads analysis at the appropriate scale and, to the degree practicable, involve a broad spectrum of interested and affected citizens, other state and federal agencies, and tribal governments. The minimum system is the road system determined to be needed to meet resource and other management objectives adopted in the relevant land and resource management plan (36 CFR part 219), to meet applicable statutory and regulatory requirements, to reflect long-term funding expectations, to ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance.

# **Analysis Methods**

- Review existing conditions for potential haul routes
- Review the Melvin Butte Vegetation Management Roads Analysis (Walker 2014)
- Review the current Yearly District Road Maintenance Plan
- Calculate miles of road (before and after Roads Analysis recommendations)
- Calculate road density (before and after Roads Analysis recommendations) with the project area

# **Existing Conditions**

The majority of roads within the analysis area have been in existence for over 100 years, and many date back to the early decades of the  $20^{th}$  century. The roads within the analysis area were, by and large, constructed to provide access for timber harvest.

The existing transportation system in the Melvin Butte Vegetation Management Project contains a total of up to 52.51 miles of Forest System roads. All roads within the planning area are forest roads ranging from standard from primitive, wheel tracks to two lane paved Arterials. This also includes 3.31 miles of existing administratively closed roads.

About 9.2% of the system involved consists of Highway Safety Act Roads maintained at a higher standard to accommodate low clearance passenger vehicles. This system has historically been designed and maintained to accommodate the mix of traffic resulting from resource activities and a significant amount of recreation traffic, thus there is a fairly good road system in place which can handle most existing or proposed traffic generating scenarios. Some additional reconstruction or heavy maintenance would be needed if restoration projects concentrate haul volume onto localized segments of these roads.

The remaining 90.8% of the system consists of typically lower standard, high clearance only or closed single lane roads. These roads receive little or no routine maintenance. The roads receive only what is necessary to correct safety problems, when environmental damage is detected or when they are being used for commercial activity. Traditionally, maintenance associated with

commercial use (commercial haul) has been the primary means of maintaining these otherwise low use roads. See Table 1 for a summary of road maintenance levels in the project area.

## **System Road Maintenance Levels**

- Level 5 Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double-lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is "encourage."
- Level 4 Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is "encourage." However, the "prohibit" strategy may apply to specific classes of vehicles or users at certain times.
- Level 3 Assigned to roads open and maintained for travel by prudent drivers in a standard passenger cars. User comfort and convenience are low priorities.

  Roads in this maintenance level are typically low speed, single lane with turnouts, and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either "encourage" or "accept." "Discourage" or "prohibit" strategies may be employed for certain classes of vehicles or users.
- Level 2 Assigned to roads open for use by high-clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either to (1) discourage or prohibit passenger cars or (2) accept or discourage high-clearance vehicles.
- Level 1 Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate."

Table 1 Current Road Status in the Project Area

MAINTENANCE LEVEL	TOTAL
1 – Basic Custodial Care (Closed Roads)	3.31
2 – Maintained for High Clearance Vehicles	44.39
3 – Maintained Suitable for Passenger Cars, Low User Comfort, Aggregate Surface	0.26
4 – Maintained For Passenger Cars, Moderate Degree of User Comfort	4.55
5 - High Standard Paved Passenger Car Road, High degree of User Comfort	0.0
Undetermined	0.0
TOTALS	52.51

Definitions of the objectives of closing and decommission a road are:

Closed Road (Level 1) – A closed road is a road is closed at one entrance (spur road) or both ends by means of using natural resources (dead fallen trees, boulders) or by man made resources (gates). A closed road remains a Forest System Road and will have a identification number associated with it. A closed road can be utilized by the Forest Service for emergency purposes such as access to fire situations or administratively for a timber sale.

Decommission Road – A decommissioned road is a road which will be treated and removed from the Forest Transportation system. The identification number shall be removed and the road shall be obliterated, if necessary, to transform the road back to the surrounding natural environment.

The leading reason for the creation of the majority of the existing road system was to provide access for timber harvest. As timber harvest has significantly declined on national forests over the past several years, the general use of the system roads has changed.

Today the road system sees some administrative use; however the primary use is public access to multiple summer and winter recreation opportunities on the forest. The largest recreation attraction adjacent to the analysis area is the Three Creek area which provides opportunities for camping, fishing, hiking, horseback riding, and snowmobiling. Road 16 is the primary arterial in the analysis area and serves as the main access to the Three Creek area. Outside of the Three Creek area, other recreation opportunities exist including several trailheads that provide access to wilderness trails.

From late spring through fall, firewood collection and mushroom harvesting contribute an increase amount of seasonal traffic to the road system. During fall the road system sees a high amount of traffic from various deer and elk hunting seasons.

The existing management objectives for roads within the Melvin Butte Vegetation Management Project can be split into two definitive areas: administrative/land management access, and recreation access. The bulk of roads, are managed primarily for administrative access and are only secondarily managed to facilitate public usage. Arterials and collectors, regardless of Maintenance Level, are managed to allow for a mix of commercial and private traffic.

Maintenance Level 2 roads are generally managed to be primarily used by high clearance vehicles. During periods of commercial haul, they are intended to be single user facilities, given the narrow roadbeds and lack of frequent turnouts preclude any opportunity to safely provide for mixed commercial/public traffic during commercial haul periods. This would occur on most Maintenance Level 2 roads within the project area. There are exceptions to this as some Maintenance Level 2 roads serve as 2 lane collector roads in which would not be restrictive.

#### **Road Restriction**

Commercial Road Rules Deschutes National Forest

Forest Road 16 – Snow 3 – "Snow plowing and vehicle use prohibited from Dec. 1 through April 30". The District Ranger could choose to waive this restriction.

## Reconstruction

Prior to implementation of the project, a road maintenance appraisal will be conducted for each unit in the stewardship and/or timber sale. In the maintenance appraisal, the Road Manager will estimate the required maintenance and which transportation routes the contractor shall utilize with each sale unit. This maintenance appraisal does not take into consideration required road reconstruction for the commercial haul routes.

Road 1628000 – a section of curved road in which the curve radius might be too small for chip trucks to maneuver around and might need reconstruction to reduce the curve radius and allow passage. A section of the 1628, north of 1628800.might need reconstruction due to water erosion down the center of the road and need to be repaired if the road is utilized for commercial hauling.

## **Issue Statement**

The Melvin Butte Vegetation Management Project has the potential to plan, operate, and maintain a safe and economical transportation system providing efficient access for the movement of people and materials involved in the use and protection of National Forest Lands, specifically in the Melvin Butte Vegetation Management Project area.

### Measures

What this analysis will measure are two things;

- 1. Total miles of system roads and total miles of open system roads within the project area
- 2. Miles per square mile of open road density within the project area.

Both measurements will be analyzed with the "no action" alternative and with alternatives 2 and 3.

## **Closing and Decommissioning of Forest System Roads**

## Alternative 1 - No Action

With this alternative, none of the recommend road closures and decommissioning would take place. The open roads are not currently maintained but would still remain open to public use. The project area encompasses 5,375 acres (8.40 square miles) along with a current mileage of all Level 2 through 5 open roads is 49.20 miles. This number will not change with Alternative 1 (No Action). This equates to an open road density of 5.86 miles of road per square mile of project area (miles/miles²). This is above the recommended guideline of 2.5 miles of road per square mile of area as stated Section TS-12 of the Deschutes National Forest Plan. This will have not any effects on the current transportation system. Road maintenance currently is focused on Maintenance Level 3 roads and above and funding for maintaining Maintenance Level 2 roads are at minimum levels. Alternative 1 will not change the current road maintenance levels.

# Alternative 2 and 3 Direct and Indirect Effects

A direct effect of this project will be the decommissioning and closing of analyzed Forest System Roads. The team revisited the Popper portion of the Sky Roads Analysis. It was agreed amongst team members the recommendations from the Sky Roads Analysis is the current recommendation with the exception of Forest Roads 1610480, 1610455 1620570, and 1620850. For this reason, the Melvin Butte Vegetation Management Project Roads Analysis was completed (Walker, 2014)

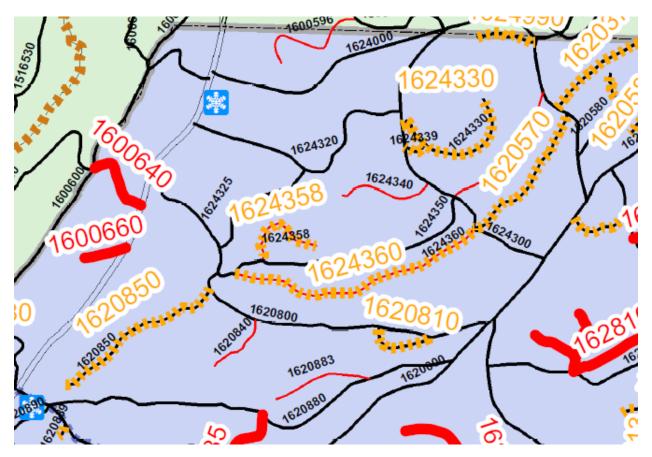
Forest Road 1610480 is an existing open Maintenance Level 2 road located on the east side of the project area. Current recommendations from the Melvin Butte Vegetation Management Project suggest the decommissioning of Forest Road 1610455 would essentially isolate Forest Road 1610480 with no connection points at either end. It was decided in the roads analysis process to decommission Forest Road 1610480.

Figure 2 Forest Road 1610480



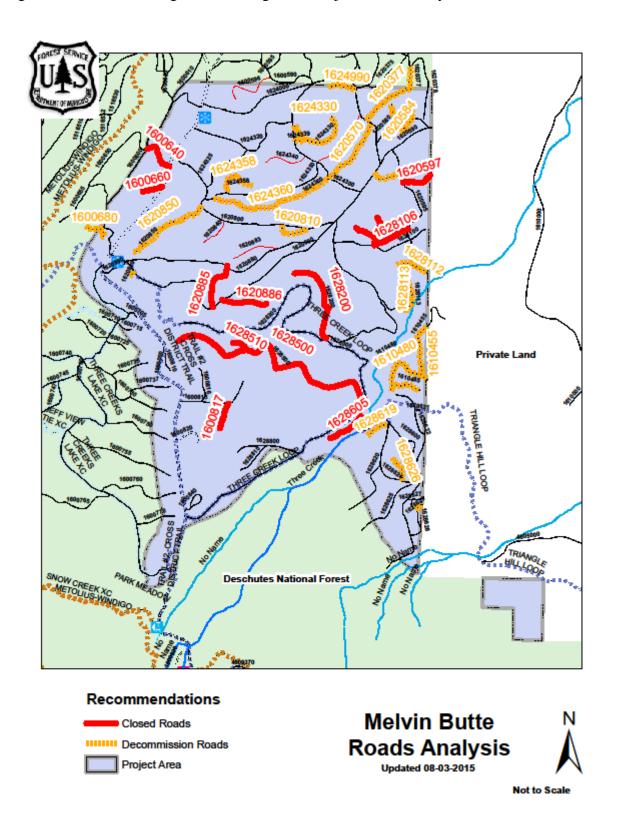
The Pole Creek Fire, 2012, and its effects created increased drainage in the area due to the lack of vegetation to slow water flow across the landscape. Part of this effect was increased drainage flow paralleling Forest Road 1600700 and eventually flowing onto Forest Road 16. Forest Road 16 is defined as a route suitable for passenger vehicle use. The resulting water flow deposited debris (in the form of sediment and small boulders) onto Forest Road 16, making the route impassible for passenger vehicles. To alleviate this problem, a large culvert was installed at the intersection of Forest Roads 16 and 1600700. It is also important to note this road services many campgrounds and trailheads in the Three Creek area. It was discovered this flow affected some roads within the Melvin Butte Vegetation Management Project area with erosion and scouring to the point the roads were unusable to motorized traffic. After several field visits and discussions with fisheries, hydrologist and wildlife it was determined this scenario was an ephemeral stream. It was also determined the roads affected by this scenario would be best served decommissioned. The recommendations from the Sky Roads Analysis (2009 in association with West Trout and Popper projects, which did not have Record of Decisions) recommended Forest Road 1620570 as Maintenance Level 1 status and Forest Road 1620850 as no change in Maintenance Level. With the erosion damage which occurred on both roads it was concurred that both Forest Roads be recommended for decommissioning with the Melvin Butte Vegetation Management Project.

Figure 3 Pole Creek Fire affected Forest Roads 1620850 and 1620570



With Alternatives 2 and 3 the total miles of open system roads will be reduced from 49.20 miles to 37.00 miles, a reduction with a change of density from 5.86 miles/miles<sup>2</sup> to 4.40 miles/miles<sup>2</sup>. During the implementation of closing and decommissioning roads, the Forest Service could close user created and breached closed (Maintenance Level 1) roads when the opportunity arises. This does not mean all user created and breached closed roads will be closed within the Melvin Butte Vegetation Management Project area but when the user created and breached closed roads are located during the field review and process of closing/decommissioning system roads, they too could be closed. The roads will be evaluated on the ground during the process of closing/decommissioning roads. If a road prism has naturally grown in with vegetation (trees, brush, native grasses) a determination will be made between closing/decommissioning the road by mechanically means or leaving the road in its current state.

Figure 4 Melvin Butte Vegetation Management Project Roads Analysis Recommendations



If roads recommended for decommissioning are creating resource damage (i.e. water erosion) appropriate mitigation shall take place to reduce the resource damage. The mitigation techniques would include construction of water bars across the road to dissipate water runoff, construction of lead out ditches to channel the water to the native landscape for dissipation purposes, the removal of culverts (decommissioned roads) to return the natural drainage channel to its natural state, and other best management practices .

As stated with Alternative 1, the current open road density is 5.86 miles/miles<sup>2</sup> of project area. With a reduction in open road mileage from 49.20 miles to 37.00 and using a project area of 8.40 square miles, the road density equates to 4.40 miles/miles<sup>2</sup> of project area, a net decrease of 1.46 miles/miles<sup>2</sup>.

Table 2 Route Miles, Stream Crossings and Routes in Melvin Butte Vegetation Management Project Area

	Existing	Alternatives	Amount of
Route Miles, Stream Crossings, and Routes in RHCAs	Condition	2 & 3	Change
Project Acres	5375	5375	0
Project Acres Open to Motorized Cross-Country Travel	0	0	0
Grand Total Motorized Route Miles:	52.51	44.80	-7.71
1. Total Miles of Roads	52.51	44.80	-7.71
a. Miles designated as open yearlong	47.48	36.17	-11.31
b. Miles designated as open seasonally	1.72	0.83	-0.89
c. Miles designated as closed yearlong (ML 1)	3.31	7.80	4.49
2. Total Miles of Motorized Trails	0	0	0
a. Miles of designated roads open year round for use by OHVs	42.66	31.97	-10.69
b. Miles of designated roads open seasonally for use by OHVs	1.72	0.83	-0.89
c. Miles of trail available for use by OHVs <50 in wide	0	0	0
d. Miles of trail available for use by OHVs >50in wide	0	0	0
e. Miles of trail designated for motorcycle use	0	0	0
3. Total Miles of Routes in RHCAs	0.35	0.22	-0.13
a. Total miles of designated OHV routes in RHCA	0	0	0
b. Total miles of designated open roads in RHCA	0.35	0.22	-0.13
c. Total miles of designated closed OHV trails in RHCAs	0	0	0
d. Total miles of designated closed roads in RHCAs (ML 1)	0	0.08	0.08
4. Total Stream Crossings by Designated Route	1	1	0
a. Total number of open OHV trail stream crossings	0	0	0
b. Total number of open road stream crossings	1	1	0
c. Total number of closed OHV trail system crossings	0	0	0
d. Total number of closed road (ML1) stream crossings	0	0	0
5. Total Miles of Designated Routes Available to OHVs	44.38	32.80	-11.58

**Temporary Roads** 

A direct effect of this project is the creation of temporary roads. A temporary road is by definition a road for the purposes of implementing management objectives for the surrounding land. Temporary roads are not part of the Forest Transportation network and as the name implies exist for a limited amount of time. These roads shall be constructed when appropriate during the duration of the project for access to silvicultural and fuels reduction treatment areas. Once the treatment area prescription has been complete, the temporary road will be decommissioned and rehabilitated. The amount of required temporary roads shall vary between each alternative due to the fact the number of treatment areas in each alternative are different. There shall be no temporary roads constructed in the inventoried roadless areas.

## Alternative 1 - No Action

Alternative 1 (no action) would not produce any temporary roads.

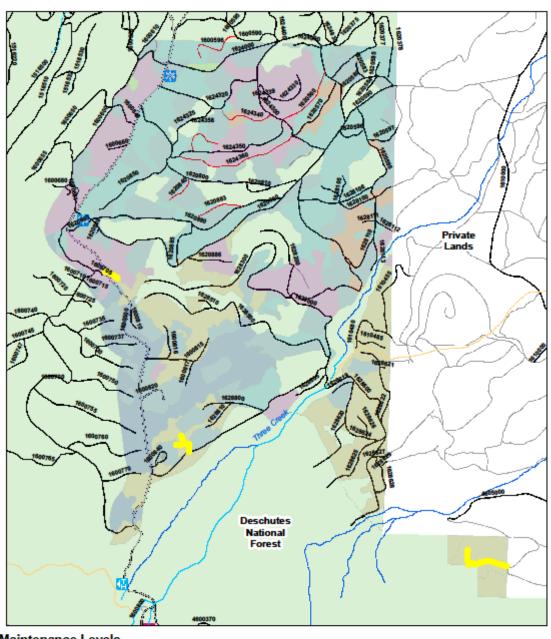
# Alternative 2 Direct and Indirect Effects

Alternative 2 would produce 0.80 miles of temporary roads for the purpose of access to prescription units. This alternative would use existing roads that are not currently on the transportation system. The use of the temporary roads would not create environment disturbance for the reason of there would be no new road construction for the implementation of the temporary roads. Maintenance work on the temporary roads would include installation or rehabilitation of drainage structures and grading the road for drainage purposes which the roads will be rehabilitated back into the landscape thus having short term disturbance effects. Rehabilitation efforts would include removing any existing culverts that are present, scarifying the soil to reduce the compaction effects, and placement of existing debris (rock, downed wood) to prevent access to the road once the project is completed.

# Alternative 3 Direct and Indirect Effects

Alternative 3 would produce 0.0 miles of temporary roads for the purpose of access to prescription units. This would not have any effect in the area.

Figure 5 Proposed Temporary Roads, Alternative 2



# Maintenance Levels (Current Status)

Proposed Temporary Roads

- ■ +5 HIGH DEGREE OF USER COMFORT
- 4 MODERATE DEGREE OF USER COMFORT
- 3 SUITABLE FOR PASSENGER CARS
- ----- 2 HIGH CLEARANCE VEHICLES
- 1 BASIC CUSTODIAL CARE (CLOSED)

Melvin Butte Vegetation Management Project Proposed Temporary Roads Alternative 2

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Not to Scale

#### Maintenance

### Alternative 1 - No Action

There would be no additional maintenance on roads within the project area.

# Alternative 2 and 3 Direct and Indirect Effects

A short term direct effect would be the opportunity to provide maintenance to roads in association with commercial hauling. Most of the roads anticipated in being utilized for this project, for the purposes of haul logs, biomass, and wood chips, have not been maintained for a number of years. This project will create the opportunity to provide the much needed maintenance for the roads involved.

- Road maintenance will include some of the following:
- Blading Shaping the surface of the road for proper water drainage
- Culvert and other Drainage Facilities Cleaning out existing relief culverts, ditches, and creation of water bars to improve the water drainage of the roads.
- Hazard Tree Removal During the term of prescription projects, contractors will have the authority to removal hazard trees deemed unsafe along haul routes.
- Brushing The contractor would be authorized to trim and remove impeding brush such as low tree limbs, small trees and bushes encroaching into travel lanes of the roads.

Not all Forest System roads would be involved with this maintenance. At a minimum, 12 miles of system roads would require maintenance. Only roads utilized for commercial haul involving the Melvin Butte Vegetation Management Project would be subject to road maintenance.

## **Cumulative Effects**

The physical space is defined by the project area boundary and time will be 3 years, past and future. There are no projects from the past or foreseeable future projects in the area.

### **Past**

No projects in the last 3 years have occurred affecting the transportation system including activities presented in the report.

#### Present

There are currently no projects in the Melvin Butte Vegetation Management Project area in which road closures and decommissioning would occur.

Activates are consistent within this area. The Deschutes and Ochoco National Forest Road Crew plans and has in the past provide maintenance on select roads within the Melvin Butte

Vegetation Management Project area. Each year the crew, District road manager, and discipline specialist plan out maintenance activity across the District. Maintenance items for fiscal year 2014 in the Melvin Butte Vegetation Management Project area are:

- Patching asphalt pot holes along Forest Road 16.
- Watering and blading Forest Road 1620 from Forest Road 16 to Forest Road 1600376 (adjacent to the Melvin Butte Vegetation Management Project)
- Forest Road 1628 erosion repair.
- Forest Road 16 culvert repair
- Forest Road 1620 shoulder repair
- Erosion mitigation of Forest Roads 1624300 and 1620

There are currently no projects in the area within Melvin Butte Vegetation Management Project area in which temporary non system roads would be created.

#### **Future**

There is no foreseeable future (3 years) projects in the project which would affect the transportation system including activities presented in the report.

### Conclusion

The Melvin Butte Vegetation Management Project would have the following effects depending on the alternative:

- 1. Current road maintenance would remain the same (Alternative 1)
- 2. Reduce road system mileage (Alternatives 2 and 3)
- 3. Reduce road densities (Alternatives 2 and 3)
- 4. Increase road maintenance opportunities (Alternatives 2 and 3)
- 5. Create temporary roads (Alternative 2)
- 6. Not create temporary roads (Alternative 1 and 3)
- 7. Not close or decommission system roads (Alternative 1)